

**Remarks**

This paper is a timely response to the non-final Office Action of January 15, 2004.

In the specification, page 3 has been amended in response to the Examiner's request. Specifically, on page 3, lines 23-24, "Compared to the efficiency of the two The" has been replaced with "Comparing the efficiency of the two". On page 3, line 26, "The" was deleted.

In the drawings, Fig. 4 has been amended in response to the Examiner's request. Specifically, "dirving" was replaced with "driving" in step S2 of Fig. 4 and "from" was deleted from step S1 of Fig. 4.

In the claims, Claims 1 and 11 have been amended by removing the limitations objected to by the Examiner. Claims 4, 5 and 16 have been amended by changing the word "lamp" to "lamps". The amendments are in no way, shape or form intended to limit the scope of the amended claims, on the contrary, the amendments actually broaden the amended claims. Claims 6-10 have been canceled without prejudice.

**Sections 3-7 of the Office Action**

The Examiner rejects Claims 1, 6 and 11 under 35 U.S.C. 112, second paragraph, as being indefinite.

In his official action the Examiner rejects Claim 1 "for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." Specifically, the Examiner asserts that the recitation of the limitations "the display and non-display zones", "the external power supply" and "the lamp" in Claim 1 lack antecedent basis and, therefore, make the claim indefinite. The Examiner further states that "in claim 1, the limitation 'after separating the display and non-display zones' is an implied limitation."

Claim 1 has been amended to recite:

"A power-saving Liquid Crystal Display (LCD) driving method, comprising: separating display and non-display zones on a LCD display panel; supplying an external power to lamps lighting the display zones; and stopping the external power to lamps lighting the non-display zones."

Support for this claim amendment may be found on page 3 of the specification.

The Applicant submits that the amendment to Claim 1 does not further limit the scope of Claim 1. Claim 1 now contains sufficient antecedent basis for all the limitations.

Applicant further amended Claims 4-5 to make the claims consistent with amended Claim 1. These amended claims are not offered in response to the Examiner's rejections. The amendments are in no way, shape or form intended to limit the amended claims, on the contrary, the amendments either broaden or do not affect the scopes of the amended claims.

The Examiner further rejects Claim 6. Specifically, the Examiner asserts that the recitation of the limitations "the display and non-display zones", "the external signal supply" and "the LCD display matrix circuit" in Claim 6 lack antecedent basis and, therefore, make that claim indefinite.

Claims 6-10 have been canceled without prejudice.

Additionally, the Examiner asserts that the recitation of the limitation "the display and non-display zones", "the external power and signal supply", "the portion" and "the lamp and LCD display matrix circuit" in Claim 11 lacks antecedent basis and, therefore, make that claim indefinite.

Claim 11 has been amended to recite:

“A power-saving Liquid Crystal Display driving method, comprising: separating display and non-display zones on a LCD display panel; supplying an external power to lamps lighting the display zones; supplying the external power and signal supply to the display portion of the LCD display matrix circuit; stopping the external power to lamps lighting the non-display zones; and stopping the external power and signal supply to the non-display portion of the LCD display matrix circuit.”

Support for this claim amendment may be found in the specification at Figure 4 and the associated text in the specification.

The Applicant submits that the amendment to Claim 11 does not further limit the scope of Claim 11. Claim 11 now contains sufficient antecedent basis for all the limitations.

Applicant further amended Claim 16 to make the claim concise with amended Claim 11. This amended claim is not offered in response to the Examiner's rejections. The amendments are in no way, shape or form intended to limit the amended claims, on the contrary, the amendments either broaden or do not affect the scopes of the amended claims.

### Sections 9-23 of the Office Action

The Examiner rejects Claims 1-16 under 35 USC §102(b) as being anticipated by Rader (U.S. Patent No. 5,867,140). These rejections are respectfully traversed.

#### Claim 1 recites:

“A power-saving Liquid Crystal Display (LCD) driving method, comprising: separating display and non-display zones on a LCD display panel; supplying an external power to lamps lighting the display zones; and stopping the external power to lamps lighting the non-display zones.”

The Examiner asserts that according to Rader “the pixels of the LCD panel are not driven and the **lamp lighting the region**, along with the RAM and DMA, is inherently not powered” (emphasized added) see page 4, line 21 to page 5, line 2 of the Official Action.

The Applicant submits that Rader reference does not mention “lamps lighting the

region". Claim 1, as amended, claims "stopping the external power to lamps lighting the non-display zones". Since, contrary to the Examiner, Rader does not teach, disclose or suggests "lamps lighting the region", Rader reference does not anticipate Claim 1, as amended.

The Applicant respectfully submits that the Examiner 's assertions are based on the personal knowledge of the Examiner. As such, the Applicant requests, under 37 C.F.R. §1.104(d)(2), that the Examiner supplies the **Affidavit** specifically setting forth the facts upon which the Examiner relies in rejecting Claim 1.

Further, according to 37 C.F.R. §1.104(c)(2):

"In rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his or her command. When a reference is complex or shows or describes invention other than that claimed by the applicant, the **particular part relied on must be designated as nearly as practicable**. The pertinence, if not apparent, must be clearly explained and each rejected claim specified" (emphases added).

After reviewing the Rader, the Applicant was unable to find support for the Examiner's assertion. Specifically, the Examiner **failed** to "designate as nearly as practicable" where Rader teaches, discloses or suggests "stopping the external power to lamps lighting the non-display zones" as claimed in Claim 1, as amended.

Hence, the Applicant submits that Claim 1, as amended, is patentable over Rader reference. Claims 2-5, at least based on their dependency on Claim 1, are also believed to be patentable over the Rader reference.

Claim 11 recites:

"A power-saving Liquid Crystal Display driving method, comprising: separating display and non-display zones on a LCD display panel; supplying an external power to lamps lighting the display zones; supplying the external power and signal supply to the display portion of the LCD display matrix circuit; stopping the external power to lamps lighting the

non-display zones; and stopping the external power and signal supply to the non-display portion of the LCD display matrix circuit.”

The Examiner asserts that Claim 11 is rejected on the same bases as Claim 1. In rejecting Claim 1 the Examiner asserted that according to Rader “the pixels of the LCD panel are not driven and the **lamp lighting the region**, along with the RAM and DMA, is inherently not powered” (emphasized added) see page 4, line 21 to page 5, line 2 of the Official Action. The Applicant submits that Rader reference does not mention “lamps lighting the region”. Claim 11, as amended, recites, “stopping the external power to lamps lighting the non-display zones”. Since, contrary to the Examiner, Rader does not teach, disclose or suggests “lamps lighting the region”, Rader reference does not anticipate amended Claim 11.

As stated above, the Applicant respectfully submits that the Examiner’s assertions are based on the personal knowledge of the Examiner. As such, the Applicant requests, under 37 C.F.R. §1.104(d)(2), that the Examiner supplies the **Affidavit** specifically setting forth the facts upon which the Examiner relies in rejecting Claim 11.

Further, the Applicant submits that the Examiner did not comply with 37 C.F.R. §1.104(c)(2). After reviewing the Rader, the Applicant was unable to find support for the Examiner’s assertion. Specifically, the Examiner **failed** to “designate as nearly as practicable” where Rader teaches, discloses or suggests “stopping the external power to lamps lighting the non-display zones” as claimed in the amended Claim 11.

Hence, the Applicant submits that Claim 11, as amended, is patentable over Rader reference. Claims 12-16, at least based on their dependency on Claim 11, are also believed to be patentable over the Rader reference.

### **Section 25 of the Office Action**

The Examiner rejects Claim 5 under 35 USC §103(a) as being unpatentable over Rader (U.S. Patent No. 5,867,140) in view of Mizuno (2002/0135575 A1). This rejection is respectfully traversed.

Based on the arguments stated above Claim 1 is patentable over the Rader reference.

Claim 5, at least based in its dependency on Claim 1, is also believed to be patentable over the Rader reference.

The Applicant further submits that Rader and Mizuno, standing alone or in combination, fail to disclose, suggest, or teach, *inter alia*, the following features recited by Claim 5, as amended, of the present application:

"The power-saving Liquid Crystal Display driving method of Claim 4, wherein output of the regulator is a control signal for operating the lamps."

As stated above Rader does not teach, disclose or suggests the use of the "lamps".

Therefore, Rader cannot disclose "a control signal" as recited in Claim 5 for something that it does not disclose.

Further, Rader teaches away from "control signal for operating the lamps" as claimed in Claim 5, as amended. According to Rader "the pixel fill circuit 418 supplies a continuous stream of pixel samples all having the same value. The value of each pixel is selected to render a **pixel off condition**" (emphasis added) see column 5, lines 34-36 of Rader.

According to Figure 4 of Rader, "switch 420" connects the output of "pixel fill circuit 418" to the input of "pixel scanning controller 424". The "pixel scanning controller 424" in turns controls the "horizontal driver 313" and "vertical driver 311". Further, "the horizontal driver 313 controls the voltage input to the rows of **pixels on the display** ...

The vertical driver 311 controls the voltage input to the columns of **pixels of the display**" (emphasis added) see column 3, lines 55-58 of Rader. Therefore, the "pixel off condition" is intended to control **only** the "pixels of the display" not "lamps".

Since Rader fails to teach the use and control of "lamps" it would not have been obvious to a person of ordinary skill in the art to adapt Rader's teaching to Mizuno and implement "output of the regulator is a control signal for operating the lamps" as claimed in Claim 5,

as amended. Therefore, Claim 5 is patentable over Rader and Mizuno and should be allowed by the Examiner.

Further, according to the Examiner the “regulator” claimed in Claim 4 is disclosed in Mizuno as a “voltage regulator” see page 7, last full paragraph of the Official Action. If that is the case the Mizuno reference teaches away from “**output of the regulator is a control signal** for operating the lamps” (emphases added) as claimed in Claim 5, as amended. According to the Examiner paragraph [0058] of Mizuno discloses “**the power control signal** based on a liquid crystal alternation signal relating to the display on the liquid crystal display apparatus, to thereby reduce the power consumption” (emphases added). The Applicant, with all due respect, disagrees. According to the Mizuno “**the power control signal generation section 14 generates the power control signal**” (emphases added) see column 4, paragraph [0058] and Figure 5 of Mizuno. Therefore, the “voltage regulator 12” disclosed in the Mizuno does not generate “**the power control signal**” as asserted by the Examiner, it is “**the power control signal generation section 14**” that generates “**the power control signal**” in Mizuno.

Since Mizuno fails to teach that “output of the regulator is a control signal” as claimed in Claim 5, as amended, it would not have been obvious to a person of ordinary skill in the art to adapt Rader’s teaching to Mizuno and implement “output of the regulator is a control signal for operating the lamps” as claimed in Claim 5, as amended. Therefore, Claim 5 is patentable over Rader and Mizuno and should be allowed by the Examiner.

**Conclusion**

In view of the above, reconsideration and allowance of the pending claims are respectfully solicited.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, then the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136 (a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

I hereby certify that this correspondence is being deposited with the United States Post Office with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents POB 1450, Alexandria, VA 22313-1450 on

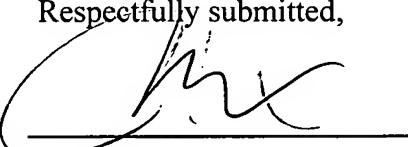
April 2, 2004  
(Date of Deposit)

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Attachments: Replacement Drawing  
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